THE OSPR NEWS

California Office of Spill Prevention and Response

Spring 2003 Issue 1 Vol. 10

SS Jacob Luckenbach oil removal project completed

By Rob Hughes and OSPR Staff

The coordinated oil spill response lead by the Office of Spill Prevention and Response (OSPR), the U.S. Coast Guard and its oil removal contractor, Titan Maritime, Inc., and other state and federal agencies partnered in the process, have successfully removed over 100,000 gallons of heavy fuel oil from the *S.S. Jacob Luckenbach,* a freighter that sank in July, 1953.

The Luckenbach Incident (initially called the San Mateo Mystery Spill) began in late November, 2001, when oiled seabirds began washing ashore between Point Reyes and Monterey Bay.

"Early on, it was clear to Unified Command that all available technology would be needed to safely remove the oil from the Luckenbach," said OSPR Warden Alan Nack, State On-Scene Coordinator. "California's wildlife and resources had to be protected from any additional discharges of oil from the sunken wreck."

CDFG photo by Debra Hamilton

Support barge anchored over Luckenbach

The Coast Guard opened the federal oil spill fund to finance the *Luckenbach* response. By initiating a formal contract bidding process, the Coast Guard awarded a contract to Titan Maritime to remove the oil from the wreck of the Luckenbach.

Titan contracted a 400-foot logistics support barge moored at the Port of Seattle. The barge easily accommodated a crew of 40 technical personnel and the specialized equipment to support saturation diving.

"The barge we chose was set up like a floating factory," said Richard Fairbanks, president of Titan Maritime. "We had to anticipate our every need to

See Luckenbach, page 2

Highlights

Luckenbach, from page 1

address the challenges of safely removing oil from the deteriorated hull of the Luckenbach."

In May, the barge arrived in San Francisco. Additional support and technical equipment was stowed on board. It immediately proceeded to the Luckenbach's resting place in 175 feet of water, 17 miles southwest of the Golden Gate Bridge in the Gulf of the Farallones National Marine Sanctuary (NMS).

During the travel time, outfitting and deployment of Titan's barge, a steady stream of oiled seabirds, collected by a small army of OSPR field responders and Oiled Wildlife Care Network (OWCN) participants, kept arriving at the San Francisco Bay Oiled Wildlife Care and Education Center in Cordelia.

CDFG photo by Debra Hamilton

Aft deck of support barge

At sea, Titan's barge was positioned above the Luckenbach, using six anchors. The Coast Guard identified a one-mile safety zone around the barge and alerted all commercial and private vessel traffic to stay clear of the oil removal operation.

But, Mother Nature's uncooperative mood quickly surfaced as Titan's barge became fully operational.

"The first two weeks into the operation were grim for us because of high winds and rough seas," said Fairbanks. "The severe weather broke two of the six anchor cables connected to the barge. For safety reasons, the barge had to be towed back to port."

Twenty-foot seas and 60-70 mph winds closed the Golden Gate, and the barge crew was forced to seek shelter in Drake's Bay until the sea conditions allowed them to go back to port in San Francisco for minor repairs and supplies.

When the bad weather abated, the barge was re-anchored over the Luckenbach, and the Titan crew was on the clock to complete its contracted task.

"Titan's crew had lost precious operational time," said OSPR veteran spill responder Kim McCleneghan, Planning Chief and Senior Environmental Scientist. "The annual on-water migration of Common Murre adult birds and chicks from the Farallon Islands to Monterey Bay was projected to occur sometime in June or July."

To address this issue, Warden Nack scheduled and rotated OSPR observers on the barge to represent the Department of Fish and Game. Each would be on hand to monitor the oil removal operation and the seabird situation.

Personnel from Gulf of the Farallones NMS were also monitoring wildlife in the immediate area of the operation. They also placed representatives on the barge to observe and offer suggestions concerning habitat and wildlife issues.

THE OSPR NEWS

The OSPR NEWS is published by the California Department of Fish and Game Office of Spill Prevention and Response, to provide information regarding OSPR programs and activities. For a free subscription, e-mail dmichael@ospr.dfg.ca.gov; phone 916-327-9948; or write:

The OSPR NEWS
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Dana Michaels, Editor

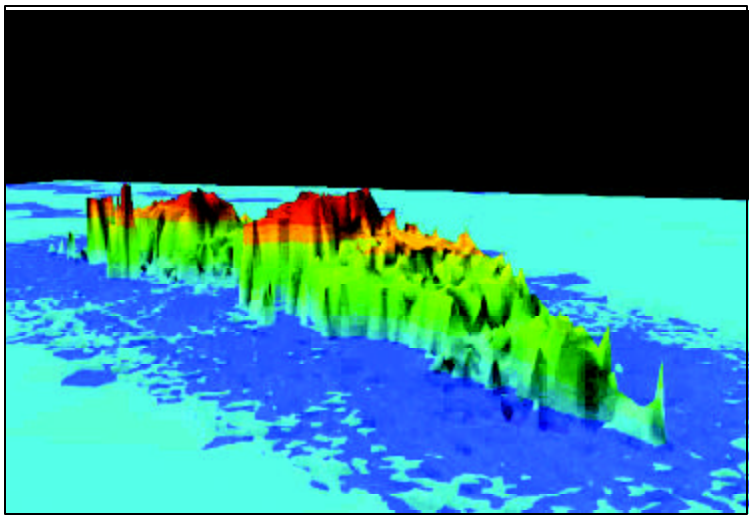
Titan's crew went to work utilizing side-scan radar, a Remotely-Operated Vehicle (ROV) and dive teams. They found the decayed, sunken wreck of the *Luckenbach* resting in three sections with the aft section partially buried in the sandy bottom.

The next challenge to Titan's saturation dive teams was to locate the oil, frame by frame, within the hull of the *Luckenbach* using an intricate drill and tap process. The divers would have to endure frigid water conditions and adjust to swift undersea currents.

Each two-man dive team had to endure 28 days of breathing a mixture air and helium; and work, eat and sleep at a pressure equal to the depth of 175 feet. On the bottom, the divers worked from a diving bell carefully positioned adjacent to the sunken wreck. In the evening, both divers were transported in the diving bell topside to the barge. Each diver was then transferred to a sealed, pressurized living habitat for the night.

Diver data coordinates began streaming in. Technicians in the barge's command center produced an accurate three-dimensional computer-simulated image of the *Luckenbach's* hull cross sections, using the coordinates relayed by the divers.

Those computer images were compared to the ship's original construction blueprints and its 1953 shipping manifest. A clearer picture of where the oil remained within the wreck began to emerge.



Courtesy of USCG MSO-SF Bay

Side-scan radar image of the Luckenbach wreck

Meanwhile, daily Unified Command meetings continued to review the progress of Titan's oil removal operations. Onshore, wildlife search and collection teams from OSPR and OWCN continued to monitor affected beaches and collect any oiled wildlife.

Oiled seabird collections began to taper off. The employees and volunteers at the OWCN Center in Cordelia regrouped and readied themselves for the next wave of oiled wildlife arrivals.

Back on the barge, Titan research and development technicians were developing the mounting plates that would secure specially designed oil removal pumps to predetermined locations on the Luckenbach's hull.

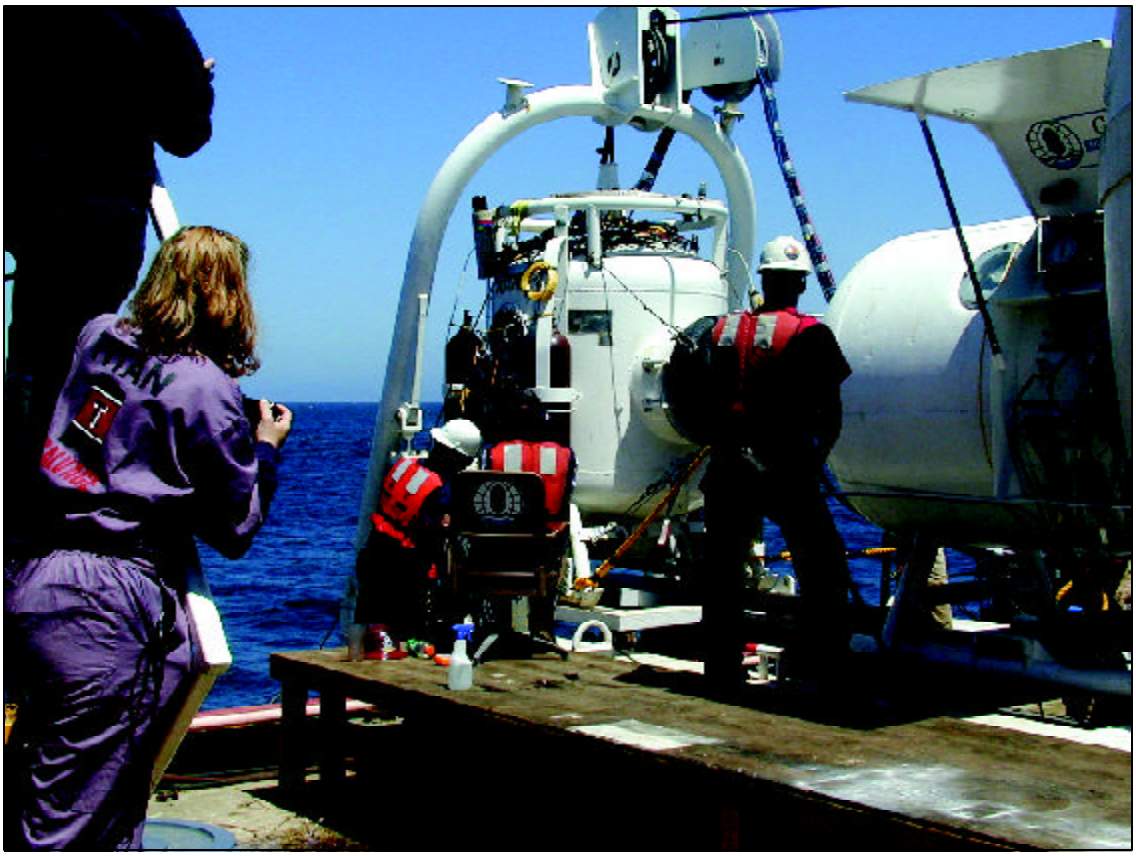
This diving bell is NOT for the claustrophobic!

CDFG photo by Debra Hamilton

The design of the pumping system would also allow the passage of a steam lance (high pressure steam pipe) or a heat exchanger (a tubular, re-circulating, heating device) into the system. At this depth and temperature, the oil was the consistency of peanut butter. Each of these tools would heat the thick oil allowing pumps to deliver more fluid oil topside. Oil traveled from the wreck using six-inch, heavily-reinforced, hot water-injected hoses connected to large collection tanks on the barge.

In preparation, the saturation diver teams dry-practiced installing the landing plate and steam heater on a large piece of steel that simulated a hull plate section of the *Luckenbach*. Titan technicians made the necessary adjustments to facilitate a safe and effective installation.

See Luckenbach, page 4



Crew prepares to deploy diving bell from barge

CDFG photo by Vince Jeffries

during the oil removal pumping operation.

The Unified Command established a surface oil collection plan with local oil spill cleanup co-op, Clean Bay, Inc., and the National Response Corporation (NRC). Their oil collection assets would be placed near the barge before any oil pumping began. Their job was to monitor and collect any discharged oil.

Luckenbach, from page 3

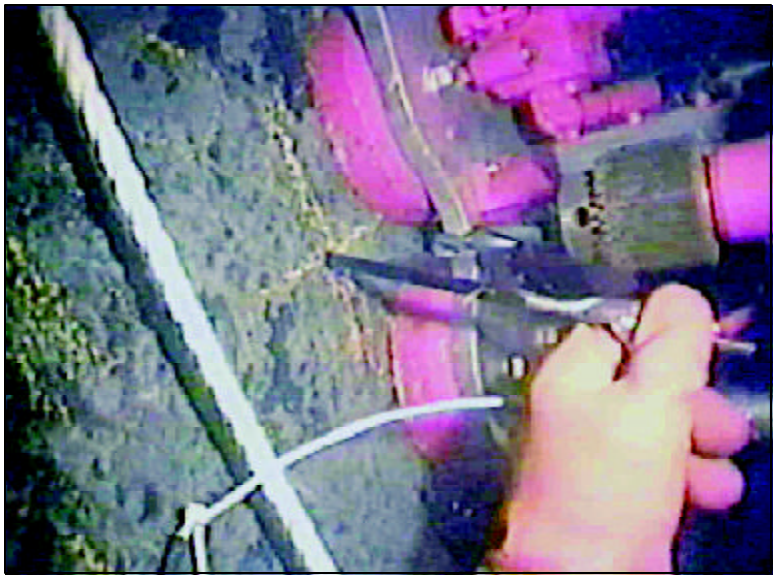
Down below, the divers had systematically identified the locations of all the remaining oil in the *Luckenbach*. Finding and plugging broken or seriously damaged vents to double-bottoms and deep tanks presented formidable challenges, made more difficult by a huge amount of heavy, loose cargo.

"The Unified Command now had a very clear picture of the oil removal task at hand," said Warden Nack. "But, a few key issues had to be addressed before Titan's saturation divers commenced with the oil pumping operation."

Early on, Unified Command brought National Oceanographic and Atmospheric Administration's (NOAA) Scientific Support Coordinator on board for weather forecasting and oil trajectories in the operational area. Aerial overflights of the region continued to be scheduled when necessary.

At issue now was the possibility of a large discharge of oil coming from the *Luckenbach*

Titan technicians on the barge monitored the oil removal operation from TV cameras on the divers and used additional video surveillance cameras from their ROVs that moved around the wreck.



A diver extracts heated oil through holes drilled in the Luckenbach's hull.

USCG photo

Unified Command discussed the use of aerial dispersants as an emergency clean-up tool if a large discharge of oil surfaced during Titan's oil removal operation. "The discussions to use aerial dispersants in this incident were both candid and educational," said Warden Nack.

A mutual agreement and specific guidelines to use aerial dispersants in the *Luckenbach's* case were firmly established by all members of the Unified Command. "This is a textbook example of how the Unified Command properly establishes good working relationships with other federal state and local agencies during a spill event," said Harlan Henderson, OSPR Administrator.

Fortunately, Unified Command did not need to deploy aerial dispersants in this operation. Titan's crews managed to pump over 100,000 gallons of heavy fuel oil from the *Luckenbach's* hull into large collection tanks on their barge. The wreck retained an estimated 29,000 gallons of unrecoverable oil, which was sealed by Titan divers and entombed by surrounding sand and sediments.

"Titan started the 5-month oil removal operation on the *Luckenbach* in May, and the overall success of this operation could not have been achieved without the excellent coordination and trust developed between Titan and responders from the OSPR, Coast Guard, NOAA and others," concluded Fairbanks.

Titan's fully-laden barge containing all recoverable *Luckenbach* oil returned to the Port of Seattle for proper removal in early October.

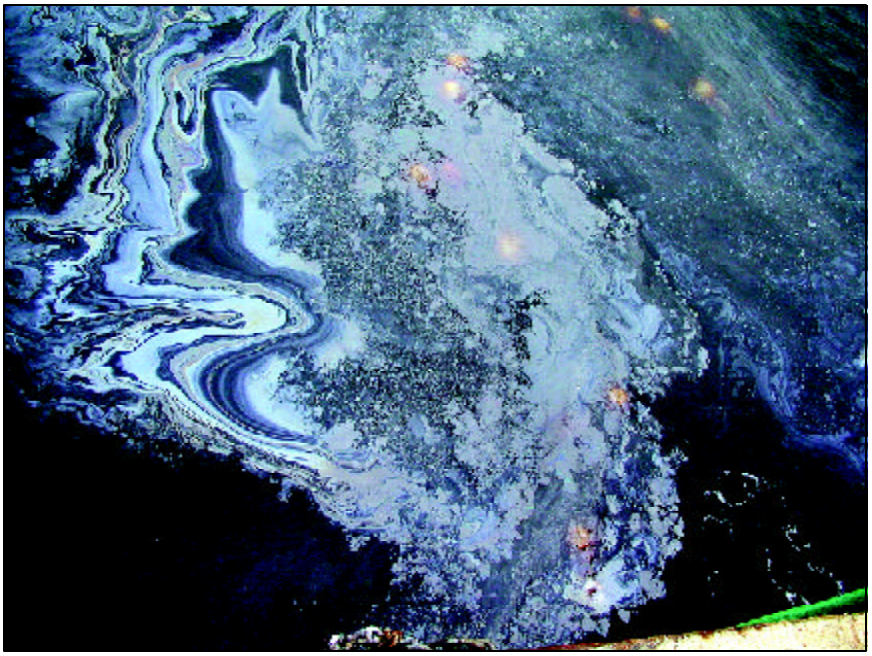
As of press time, the OWCN Center at Cordelia received a total of 2,720 sea birds (most of them Common Murres) in this incident. Of the 1,094 live birds received, 724 died and 370 were released back to habitat. 1,626 were already dead when brought to the Center.

Because birds were collected far from where they were oiled, Dr. Scott Newman, spill response veterinarian with OWCN, said the rescue teams had a lower average success rate with the birds.

Unfortunately, heavy storm surges and shifting underwater currents cause some of that oil to escape. This was anticipated by the Unified Command, so the OWCN and wildlife search and collection teams have remained on stand-by status, to be deployed following heavy weather events. There is no longer any evidence of leakage during calm weather or minor storms. Oiled seabirds continue to wash ashore after each big storm, but in smaller numbers, and for shorter periods of time.

The *Luckenbach* operation did not come without a price tag. The federal government, through the Coast Guard, provided more than $19 million. "The success of this oil recovery operation is the result of countless hours of hard work and the dedication of many people," said Commander Steve Boyle, USCG.

CDFG photo by Vince Jeffries



During the operation, some fuel oil escaped from the wreck. The orange objects beneath the oil are jellyfish.

In assessing the overall response to the Luckenbach operation, Gulf of the Farallones National Marine Sanctuary Manager Ed Ueber said, "Cooperation and hard work in this incident have been an effective partnership in protecting the animals and beaches of the Gulf of the Farallones as well as resources of the state's central coast."

It is to be hoped this work will end the winter "mystery oil spills," whose regular occurrence baffled responders from OSPR, the Coast Guard and other state and federal agencies for at least ten years.

Rating the OSROs

By Bill Weber, Oil Spill Prevention Specialist

With the approval of new regulations issued under provisions of the Oil Spill Prevention and Response Act, OSPR was given the opportunity to establish and test specific performance standards for Oil Spill Response Organization (OSRO) Ratings. OSRO applications began arriving in early November; review and unannounced drill scheduling began immediately afterward. A total of ten OSRO applications were received.

The first drill was held on November 15 in Long Beach, and the last drill was held on December 31 in San Diego. From beginning to end, the tone of each drill was positive, with OSROs making every effort to exceed requirements and expectations. The OSROs receiving Letters of Rating were: Advanced Cleanup Technologies, Inc., Ancon Marine Services, Cal Bay Industrial Services, Clean Bay, Clean Coastal Waters, Clean Seas, Foss Environmental Services, Patriot Environmental, Inc., SoCal Ship Services, and TracTide Marine Corp.

Clean Seas demonstrated the value of pre-staged equipment. In the drill, three people were able to deploy their first 2500 feet of containment boom in less than one hour.

All CDFG-OSPR photos by Bill Weber

(Left) OSPR Lt. Paul Hamilton and OSPS Ed Boyes rate Southern California Ship Services' deployment of containment and recovery equipment, like this drum skimmer and vacuum pump.

This program is huge step in the right direction for OSPR to ensure that OSROs are prepared to respond to oil spills in California's marine environments.

At the end of each day, the OSROs had proved their capabilities, and OSPR knew what we could expect from these spill responders. All in all, it's a good basis for partnerships and moving forward.

Clockwise from top: Ancon Marine personnel use boom to create a collection point in Long Beach Harbor in the shade of the Gerald Desmond Bridge. Clean Bay deployed boom in the "middle ground" between Carquinez Strait and the confluence of the Sacramento and San Joaquin Rivers. Clean Seas emloyees deploy boom from Port Hueneme's Pier 2 in unannounced drill. Ancon's responders deployed boom and vacuuming gear in Los Angeles harbor.

California Sea Otter Numbers Slide for Second Straight Year

By David Jessup, Senior Wildlife Veterinarian; Michael Harris, Environmental Scientist; and Melissa Miller, University of California, Davis Veterinarian.

For the second year in a row, fewer southern sea otters were tallied in an annual count along California's central coast, and pollution may be one of several possible causes for the lack of population growth. The annual survey is conducted cooperatively by the Department of Fish and Game (DFG), U.S. Geological Survey, Monterey Bay Aquarium, U.S. Fish and Wildlife Service, and other organizations.

Annual sea otter counts, used as an index to assess long-term trends in their population, indicate the population has not resumed growth over the last several years following the decline of the mid-1990's. Since the highest count obtained in 1995 (2,377 otters counted), counts have ranged between 2,090 and 2,317. The 2002 spring survey indicates a one-percent population decrease from last year's count — from 2,161 otters in 2001 to 2,139 in 2002.

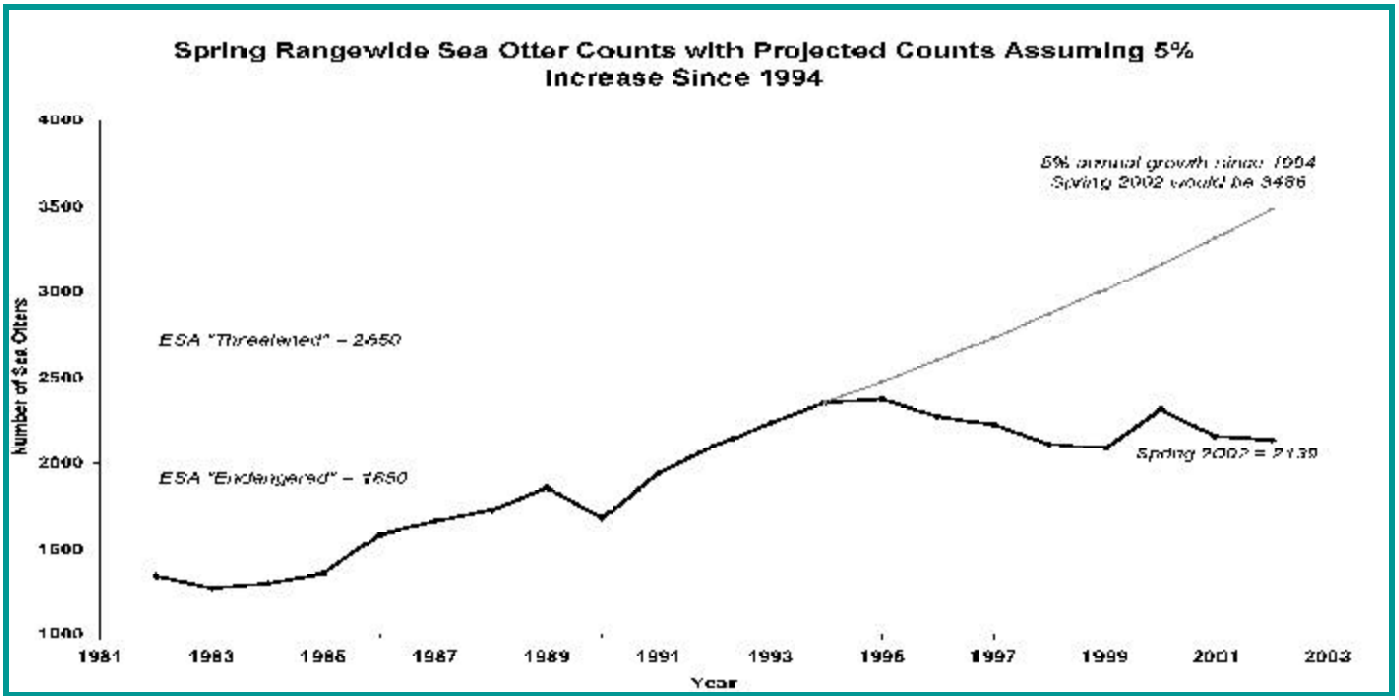
Equipped with binoculars and spotting scopes or flying at 200 feet in the DFGs' Partenavia Observer airplane, scientists and skilled volunteers scanned 375 miles along the California coast for sea otters in May, from Half Moon Bay south to Santa Barbara. The information gathered by this cooperative effort is used by state and federal wildlife agencies to make decisions about the management of this threatened marine mammal.

Before being driven to near-extinction by fur traders, over 15,000 sea otters lived off California's coast. Sea otters once lived along the entire northern rim of the Pacific Ocean; from northern Japan, along the Alaskan coast, and down the North American coast to Baja California.

By the early 1900s, after excessive fur hunting, only about 2,000 sea otters were left along the entire west coast of North America. In California, a tiny population of about 50 animals was found surviving near Big Sur. The first protective law was the International Fur Seal Treaty in 1911. In 1913, the California Legislature passed the law listing sea otters as a fully protected mammal. The federal Marine Mammal Protection Act of 1972 listed otters as depleted, and in 1977, the U.S. Fish and Wildlife Service listed the southern sea otter (the subspecies that has grown

All photos and graphics by CDFG/OSPR Staff

CDFG crew in the transfer boat keeping an otter in a net bag cool in the ocean (the tea bag maneuver) before it is transferred to land.



from the remnant Big Sur population) as threatened under the federal Endangered Species Act.

The California Department of Fish and Game has worked with other agencies, non-government organizations and individuals to study the sea otter's biology and natural history to understand what factors are influencing the lack of population growth.

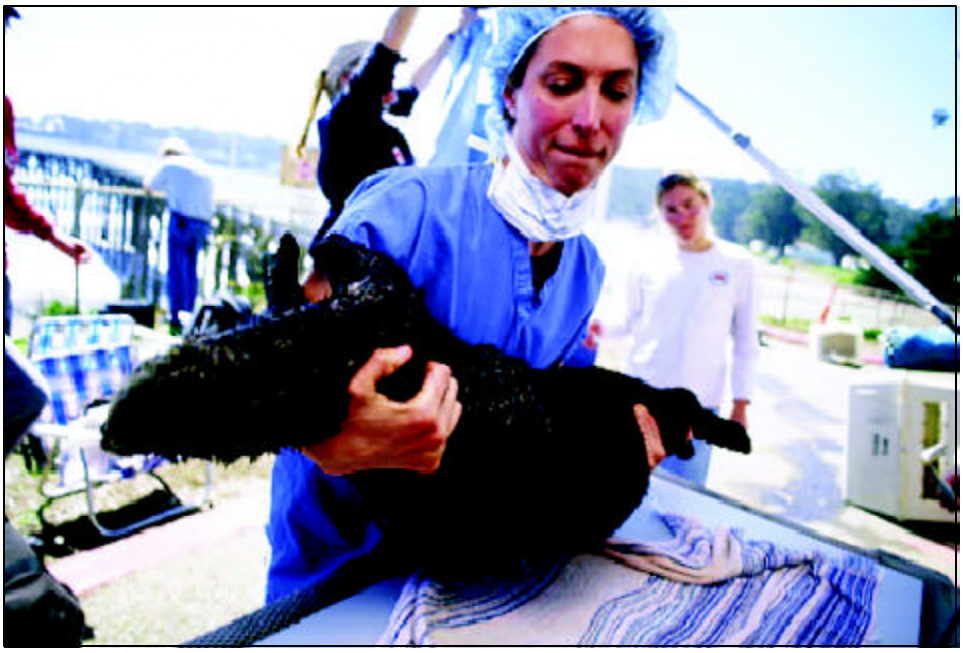
"We're concerned about the lack of population growth among California's sea otters," said Dr. David Jessup, Director of the DFG Marine Wildlife Veterinary Care and Research Center in Santa Cruz. "Until 1995, they had about a five percent annual increase, and now they're losing one-to-two percent per year. We've got to find out why, and do something about it, if we can."

The recent decline coincides with a disturbing increase in mortality. Since 1995, a relatively high number of dead otters have washed ashore — 183 in 2001. Through the end of May 2002, scientists have documented 92 strandings — a pace already exceeding the number that were stranded last year. The fate of at least some of the otters has been determined through necropsies.

"It's especially perplexing to see so many young and prime age adults, dead," says OSPR biologist Jack Ames. Ames has worked with southern sea otters for the DFG since 1972.

See Otters, page 10

OSPR Fish and Wildlife Assistant Frank Wilhelm raises a sea otter in a net bag from the transfer boat at San Simeon pier. Problems with the piers' mechanical hoist led the team to improvise.



Left: Dr. Chris Kreuder of UC Davis moves an anesthetized sea otter into surgery at San Simeon Cove (note San Simeon pier in the background).

Below: Dr. Kreuder surgically implants a temperature sensitive VHF radio and time depth recorder into the abdomen of an anesthetized sea otter. This work is done at the pier in a CDFG-OSPR mobile veterinary laboratory to minimize time required and stress. Note the pulse oximeter attached to the tongue.

Otters, from page 9

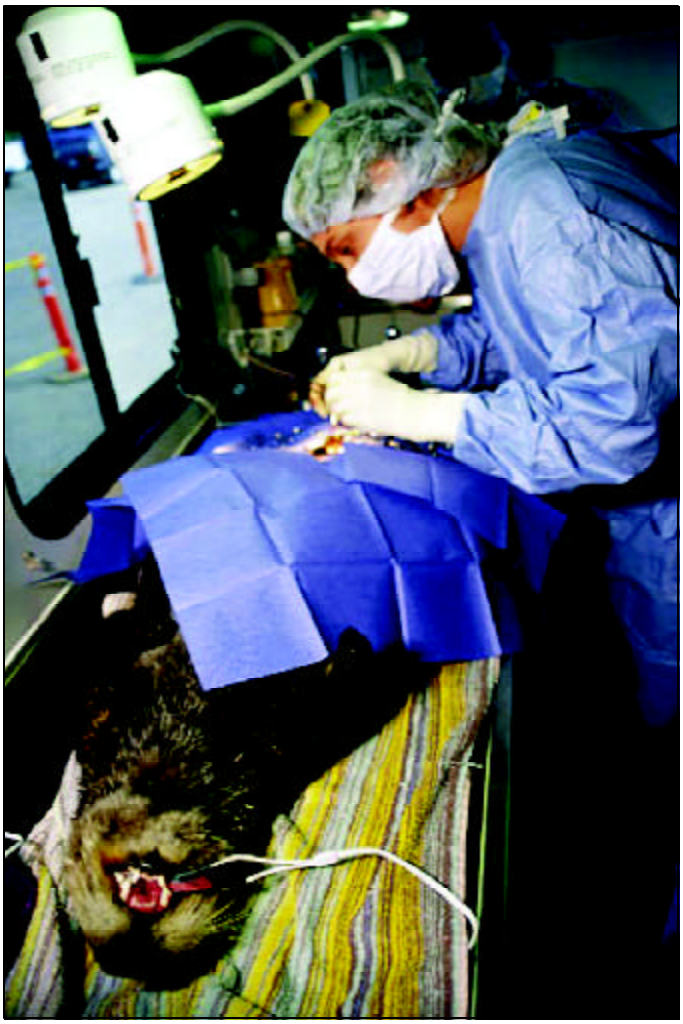
Starvation, disease, exposure to contaminants, and incidental entrapment in fishing gear may all have contributed to the recent sea otter decline. Some of the possible culprits being investigated by scientists at DFG's Santa Cruz Center include disease and parasites, pesticides, PCBs, heavy metals, and polyaromatic hydrocarbons (petroleum products).

Recent studies concluded by DFG and UC Davis Veterinary School scientists found two species of protozoa, *Toxoplasma gondii* and *Sarcocystis neurona,* had caused fatal brain infections in southern sea otters.

The scientists tested 223 live and dead sea otters between 1997 and 2001, then compiled their serological, environmental, demographic, and geographic data. They found that 42 percent of the live otters and 62 percent of the dead otters were infected with *Toxoplasma.*

While not conclusive, this is especially disturbing because the only known source of *Toxoplasma* is cat feces. Cats are the only animals known to shed oocysts — the tough, environmentally-resistant eggs of *Toxoplasma* parasites — in their feces.

One way this particular infection could be reaching sea otters is via surface water run-off (from streets, fields and yards), which could carry *Toxoplasma* from cat droppings on the land into the ocean. No studies have been done yet, to prove those links exist.

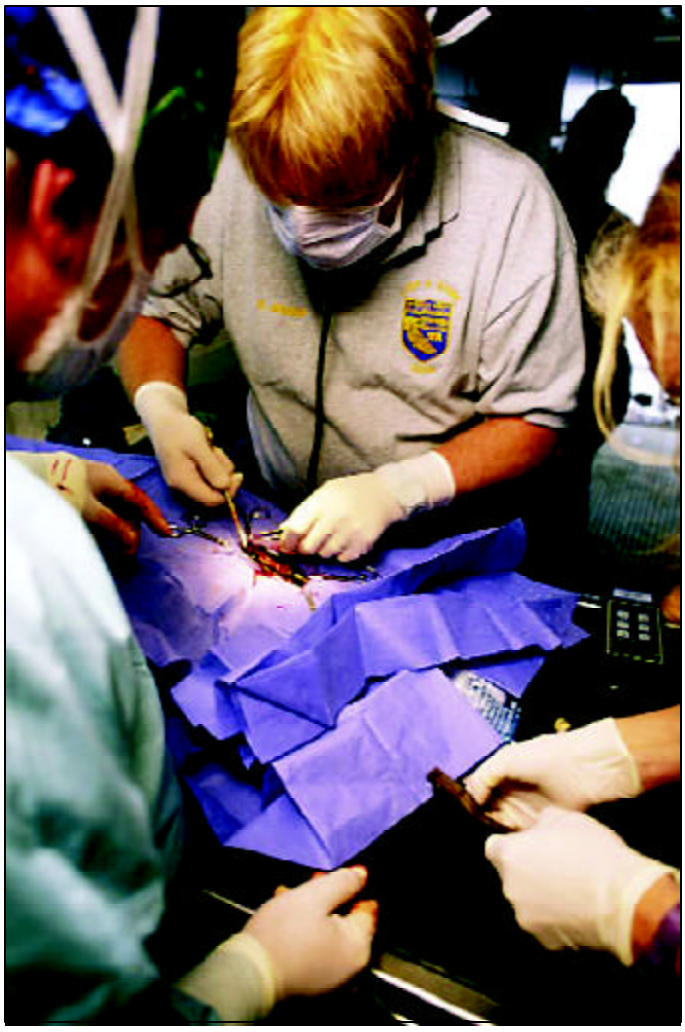


"We thought otters might be exposed to the protozoa from sewage, but this study didn't confirm that," said lead author Melissa Miller, a UC Davis wildlife veterinarian working for the Santa Cruz Center. "However, otters sampled near areas of coastal fresh water run-off were almost three times more likely than others to test positive for *Toxoplasma."*

Dr. Jessup, who is also OSPR's Senior Wildlife Veterinarian, adds, "Since sea otters tend to live in the near-shore waters, they're vulnerable to all the pollutants that reach the ocean via surface run-off. Also, many of the otters' favorite foods — like mussels and clams — could concentrate any pathogenic bacteria, protozoa and viruses in contaminated waters."

Sea otters are considered a "sentinel species," signaling problems in the marine environment at early stages. The high number of *Toxoplasma* infections in otters holds implications for other species, including humans, who are also susceptible to this parasite. Sea otters and humans eat some of the same seafood, such as shellfish and crabs. If these are concentrating *Toxoplasma,* they could put those of us who eat them at risk, too. While most healthy people can fight off *Toxoplasma* infection, it can have serious consequences for pregnant women and individuals with weakened immune systems.

For many people, sea otters have become a symbol of California's central coast and a healthy marine ecosystem. They have made an impressive comeback from the brink of extinction, and we cannot allow them to perish, now. The Department of Fish and Game will continue studying sea otter health, and *Toxoplasma* in shellfish and the marine ecosystem will be one suspect at which we'll look very closely.



Above: Dr. Dave Jessup of CDFG-OSPR doing a skin closure on an implanted otter as Dr. Mike Murray of the Monterey Bay Aquarium looks on. Michelle Staedler of MBA is attaching a tag through the webbing between two rear toes.

Left: California sea otter in kelp bed habitat

OSPR Regulations Update

By Joy Lavin-Jones OSPR Regulations Writer

The following provides details on several regulations that have recently been updated, or are in the process of being updated. The current approved language for the updated regulations, as well as all regulations promulgated by OSPR, can be found at OSPR's Internet web-site: www.dfg.ca.gov/Ospr/regulation/regulation.html

Revised Oil Transfer and Vessel Operations Regulations

Amendments to the regulations governing oil transfers and vessel operations (also known as bunkering and lightering) have been made and were approved by the Office of Administrative Law (OAL) in August 2002. The significant changes include:

- Consolidation of generic requirements that apply to all oil transfers into one section (instead of separate requirements for bunkering and lightering);
- New requirements dealing with communications during oil transfers, the "person in charge," and pre-transfer criteria;
- Listing conditions that would necessitate not initiating, or shutting down, a transfer operation;
- Additional requirements for containment and removal of on-deck spills;
- Separate requirements for Small Marine Fueling Facility bunkering operations; and
- Repeal of the section dealing with requirements at offshore marine terminals.

New Oil Spill Response Organization (OSRO) Rating Program Regulations

Legislation enacted in 2001 (AB 715, Chapter 748, Statutes of 2001) outlined the requirements for an OSRO "Rating" program, and required that contingency plan holders only contract with "Rated" OSROs. Regulations were drafted and were approved by OAL in October 2002 to enact this Rating program, which is similar to OSPR's old Approval Program for OSROs, with the following changes:

- Clarifies and simplifies the application content format, and requires more detailed information on subcontracted equipment and the "systems approach" to response;
- Limits Ratings to booming, on-water recovery and storage, and shoreline protection services;
- Clarifies conditions for Rating, including participation in unannounced drills and verification inspections, and provides more detail on required "announced" drills (i.e., type and amount of equipment to deploy);
- Specifies and defines Rating Levels and lists the information to be included on the OSRO Rating Letter issued by OSPR;
- Requires dedicated or OSRO-owned and controlled resources for response of six hours or earlier. (Dedicated or OSRO-owned and controlled resources for shoreline protection services will be phased-in);
- Outlines the Rating update and renewal procedures;
- Specifies criteria for denial, modification, suspension or revocation of a Rating;
- Delineates the process for an OSRO to appeal a Rating.

Current OSRO approvals will be grandfathered into the system. Ratings are due three years from the current approval date.

Regulation Amendments to Implement SB 849

Under existing law the Administrator is authorized to collect a fee sufficient to carry out the purposes of the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act. SB 849 (Chapter 514, Statutes of 2002) authorized a 1¢ increase, from 4 cents to 5 cents, to the maximum fee that can be charged by OSPR on each barrel of oil and petroleum products entering California over or through State marine waters.

As also provided in SB 849, Government Code Section 8670.41 states: "…The Administrator shall charge a nontank vessel owner or operator a reasonable fee, to be collected with each application to obtain a certificate of financial responsibility, in an amount that is based upon the Administrator's costs in implementing this chapter relating to nontank vessels. Before January 1, 2005, the fee shall be …$2,500, or less…" The legislation also allows the fee to be reduced for nontank vessels that pose a reduced risk of an oil spill.

It was necessary that the regulation amendments to implement SB 849 go into effect on January 1, 2003 (the effective date of SB 849) to increase funding to enable OSPR to carry out currently unfunded mandates and provide a prudent reserve for the Oil Spill Prevention and Administration Fund. Accordingly, an emergency regulatory package to implement the fee increases was submitted

to the OAL and approved on November 21, 2002. A regular rulemaking is in the process to follow-up that emergency rulemaking.

The Notice of Proposed Rulemaking was mailed in early February, with regulatory hearings scheduled for April 15 at the Bay Model Visitor's Center in Sausalito, and April 17 at the Port of Long Beach. Approval from OAL is anticipated in fall 2003.

Revised Local Government Grant Regulations

The Local Government Grant regulations implement a program to provide grants for local governments to complete, update or revise an oil spill contingency plan, to help provide a coordinated oil spill response and clean-up effort between the local government, OSPR, and federal officials. This OSPR program has existed since 1993. All counties that have jurisdiction over or within marine waters have already created their initial local oil spill contingency plans, and are now only submitting updates. The regulations have been updated to reflect this, as well as other clarifying amendments. The significant proposed changes include:

- Clarifying and providing consistency with the terms/titles used to describe the Unified Command System;
- Updating geographic boundaries to make them consistent with the U.S. Coast Guard Designated Areas; Refining some of the terms and conditions of the Grant Agreement;
- Amending the format for the local plans, to be consistent with the Area Contingency Plans;
- Clarifying the coordination of the local governments' oil spill response personnel with that of the State's Incident Command System, which is used within the Unified Command structure;
- Clarifying how the grant money can and cannot be used.

The Notice of Proposed Rulemaking was mailed in early February, with a regulatory hearing scheduled for April 8 in Sacramento. Approval from OAL on these amendments is anticipated in fall 2003.

The Winds of Change

Editor's Note:

On Friday, February 28, Harlan Henderson resigned as OSPR Administrator in order to pursue other opportunities. He had been the OSPR Administrator since July 2001.

Department of Fish and Game Director Robert Hight named Mr. Carlton Moore interim OSPR Administrator. Moore is a senior attorney who has been with OSPR since its inception in 1991. He is well-qualified to oversee OSPR, with particular expertise in federal legal issues, admiralty and international law.

During his years with OSPR, Moore has been responsible for coordinating legislation affecting ships in California waters, and is familiar with regulations promulgated by the Coast Guard and the International Maritime Organization affecting shipping. He has been responsible for implementation of State regulations affecting tanker safety and routing, tank vessel inspection, and tug assistance requirements, among others. He also prepared the report to the California Legislature for the Coast Guard Vessel Traffic System program in our state.

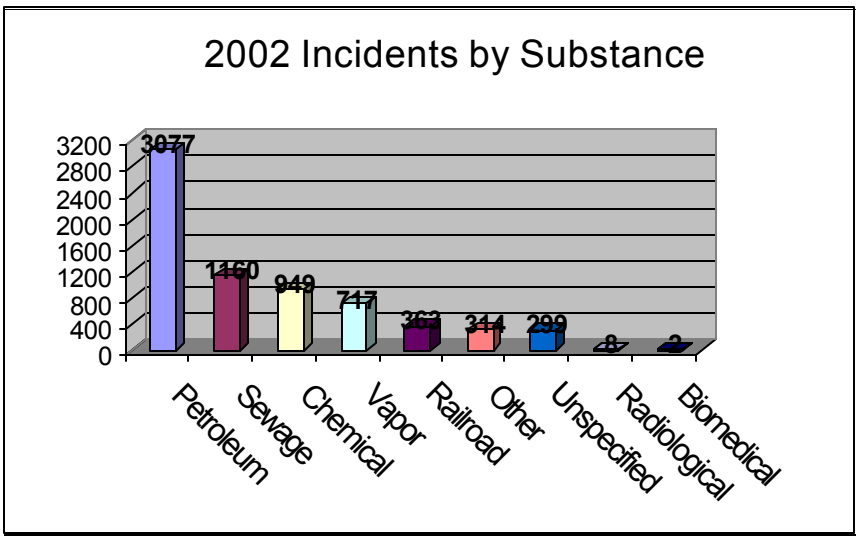
In addition, Moore has previously served as supervisor of the Regulations unit, interim Deputy Administrator, and Special Legal Counsel to the Administrator. The Department loaned him to the Department of Boating and Waterways, where he was interim Director from 1998 to 2001.

Moore earned his B.A. in political science at the University of California, Santa Barbara, and completed post-doctorate studies in admiralty at the University of Pacific's McGeorge School of Law. He served 33 years in the Coast Guard Reserve, attaining the rank of Rear Admiral. He was appointed by then-Department of Transportation Secretary Elizabeth Dole to be Vice Chair of the Coast Guard Navigation and Safety Advisory Council. (See "Staff in the Service," page 27).

2002 California Spill Statistics

Mark Twain is credited with saying, "There are lies, damned lies, and statistics!" While it is generally understood that statistics can be reported in ways that support or refute specific theories, raw numbers speak for themselves. We thought you would like to see some of ours.

These were compiled by Christell Spinelli, Enforcement Branch Office Technician, from the OSPR Communications Center's incident reports database.



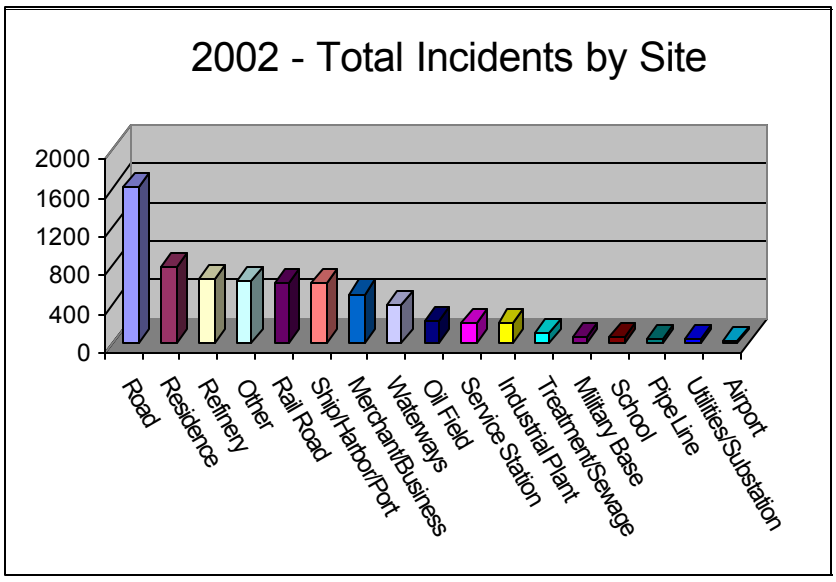
Incidents by Substance

Substance	# Reported
Petroleum	3,077
Sewage	1,160
Chemical	949
Vapor	717
Railroad	363
Other	314
Unspecified	299
Radiological	8
Biomedical	2
Total	**6,889**

Of the 6,867 spill incidents reported to the State Office of Emergency Services last year, 3,077 (almost half) involved petroleum or petroleum-based products.

Incidents by Site

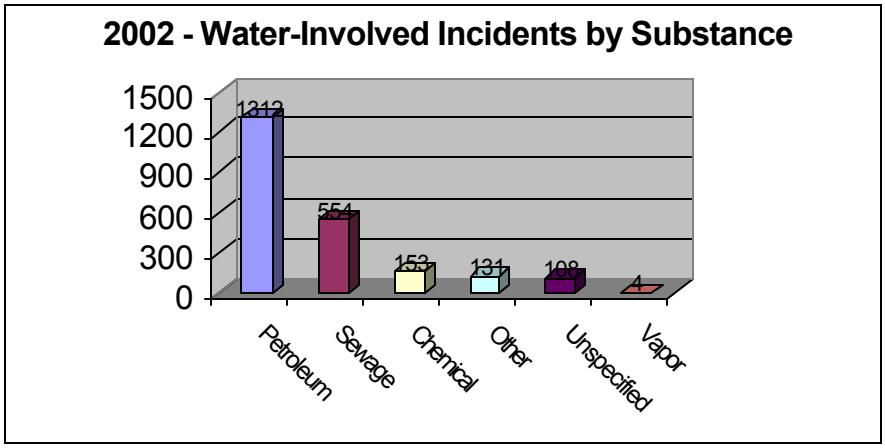
Site	# Reported
Road	1,614
Residence	777
Refinery	659
Other	625
Railroad	612
Ship/Harbor/Port	609
Merchant/Business	501
Waterways	412
Oil Field	245
Service Station	224
Industrial Plant	212
Treatment/Sewage	104
Military Base	74
School	63
Pipeline	56
Utilities/Substation	56
Airport	24
Total	**6,867**



The majority of the 6,867 spills reported in 2002 occurred on California's roads, with residence sites running a distant second.

Spills that involved waterways

In 2002, a total of 2,262 reported spill incidents affected California's creeks, streams, rivers, lakes, estuaries, bays, and the Pacific Ocean.

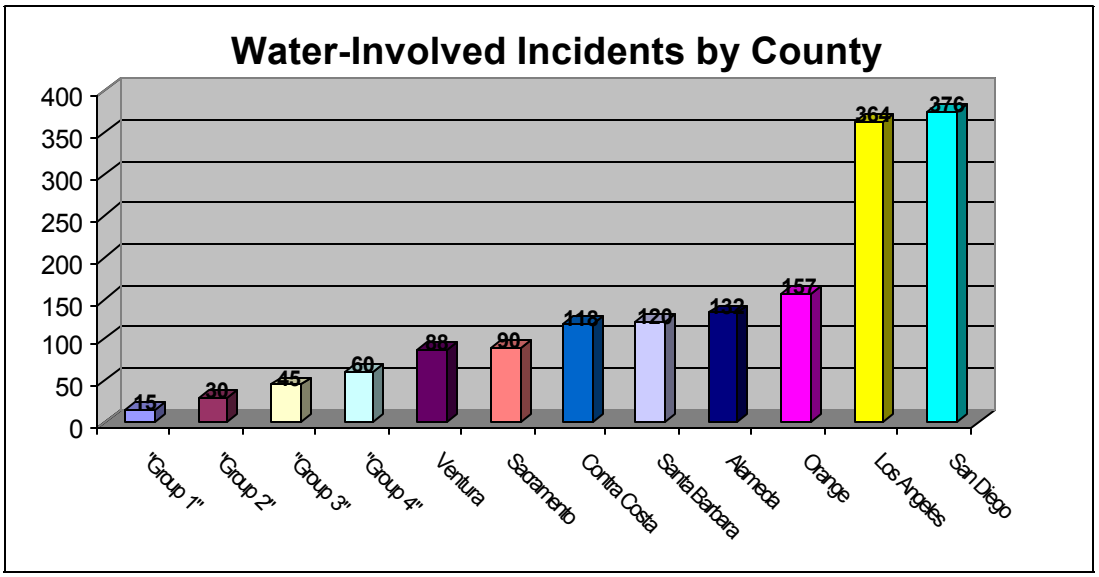


Water Involved — by Substance

Substance	# Incidents
Petroleum	1,312
Sewage	554
Chemical	153
Other	131
Unspecified	108
Vapor	4
Total	**2,262**

(above) Frequency with which specific types of substances were reported spilled into California's waterways.

Spills	County	Counties Involved in the "Group" and their Individual Incident Count
15	"Group 1"	Alpine (1), Colusa (1), Inyo (1), Lassen (1), Mariposa (2), Siskiyou (3), Stanislaus (3), Tehama (3), Trinity (3), Amador (4), Sutter (4), Butte (5), Calaveras (5), Merced (5), San Benito (5), Tuolumne (5), Plumas (6), Yuba (6), Imperial (7), Shasta (7), Tulare (7), Madera (8), Mendocino (8), Nevada (8), Del Norte (9), & Lake (13) Co.
30	"Group 2"	Fresno (16), Santa Cruz (16), Napa (20), Yolo (20), San Luis Obispo (21), Kern 23), and Placer (23) Counties.
45	"Group 3"	Santa Clara (31), Solano (35), Marin (37), El Dorado (42), and Humboldt (43) Co.
60	"Group 4"	San Joaquin (46), San Bernardino (47), San Francisco (48), San Mateo (51), Sonoma (55), Riverside (56), and Monterey (57) Counties.
88	Ventura	
90	Sacramento	
118	Contra Costa	
120	Santa Barbara	
132	Alameda	
157	Orange	
364	Los Angeles	
376	San Diego	



The majority of spills that affected waterways occurred in San Diego and Los Angeles Counties.

Tips pay-off in cleaner environment

By Ted Mar, OSPR Marine Safety Branch Chief

Tom Cruise's latest movie, "Minority Report," is a snapshot of the future where the human factor is integrated with Best Available Technology (BAT) to not only prevent crimes from happening, but to arrest the person who was going to commit the crime — **before** it happened! Wouldn't it be great if we could use the best available technology to prevent intentional oil discharges from occurring? Then, we wouldn't have to worry about rating Oil Spill Response Organizations (OSROs) or performing Natural Resource Damage Assessments (NRDAs), because OSROs wouldn't be needed and natural resource damages wouldn't happen.

In the case of the *M/V Cygnus,* we used BAT and the human factor to prevent the *Cygnus* from discharging oil illegally into California State waters **and** had the people who were going to discharge the oil arrested. Now that's pretty good, considering the vessel didn't even make it into California waters, and was outside our jurisdiction.

First things first. The *Cygnus* is a Panamanian-flagged freight ship built in 1985, with a length of 623 feet, a breadth of 105 feet, and a depth of 69.02 feet. Its gross tonnage is 44,356. The ship was manned by South Korean officers and a Filipino crew. The ship was scheduled to visit Portland, Oregon on April 9, 2002 and then transit to Los Angeles – Long Beach Harbor on April 12, 2002. It had no previous pollution violations in the United States.

On Tuesday, April 2, 2002, OSPR's Marine Safety Branch (MSB) received an e-mail, accompanied by photographs, stating that the Chief Engineer of the motor vessel *Cygnus* was covertly discharging oily bilge water every time the vessel left a port. This would be a violation of the International Convention for the Prevention of Pollution From Ships adopted by the International Conference on Marine Pollution, also known as MARPOL. What could we do? We had a few choices. We could wait until the vessel arrived in Long Beach, we could contact the State of Oregon, or we could contact the Coast Guard.

Since this was a matter that involved several States, we contacted the U.S. Coast Guard (USCG) Pacific Area's Chief of Marine Safety. This person has authority over both the Eleventh (California) and Thirteenth (Washington and Oregon) Coast Guard Districts. The Thirteenth District Coast Guard Investigative Service took the matter for action.

With the information supplied by OSPR, the Coast Guard was able to obtain a Federal Search Warrant and on April 9, 2002 boarded the vessel in Portland, Oregon. The boarding party had representatives from Coast Guard Marine Safety Office Portland, the Environmental Protection Agency and a vessel inspector from Washington State's Department of Ecology (at the request of the State of Oregon).

The photographs sent to OSPR showed a manifold connected by a hose to a skin valve (located on the skin of the vessel). The manifold and valve in the photograph were identified and divers were sent down to "block" the valve outlet. The divers found traces of oil on the ship's hull underwater by the valve's outlet. With the valve

Report Spills Promptly

In California, ALL spills of oil and other substances that could be a threat to wildlife (or human health) must be reported to the Governor's Office of Emergency Services (OES). The new phone number for reporting spills is 916-845-8911.

If that is a long-distance call, anyone in California, Oregon, Washington, or British Columbia may use 800-OILS-911 to report spills to the appropriate State or Provincial government office. In California, it is routed to the OES.

All marine spills must also be reported to the Coast Guard's National Response Center at 800-424-8802.

"blocked," the valve was disassembled and oil was found in the valve body. This was positive evidence that oil had been pumped through the valve to the ocean. The hose used to connect the bilge manifold to the valve was also found.

Six crewmembers were taken off the vessel, including the ChiefEngineer, First Engineer, Second Engineer, Third Engineer, and Master. Some crew members came forth as potential witnesses. After all the evidence was gathered, the Chief Engineer and First Assistant Engineer were charged by the U.S. Attorney. The Chief Engineer went on trial July 9, 2002, and pleaded guilty to making false entries in the *Cygnus'* oil record book., and was sentenced to serve three months in prison, followed by deportation to Korea. In October, the First Assistant Engineer pleaded guilty to making a false statement to the Coast Guard regarding the disposal of waste oil. He was sentenced to two years' probation (he had already been detained for six months while awaiting trial) and deportation to Korea.

"The Justice Department will not turn a blind eye to those who dump waste oil into our oceans or who falsify records relied upon by the Coast Guard to monitor vessel compliance with our environmental laws," said Tom Sansonetti, Assistant Attorney General of the Justice Department's Environment and Natural Resources Division.

This case demonstrates at least two important facts. One is that OSPR works cooperatively with other state and federal agencies to enforce environmental laws. The other is the value of public participation in protection of our vulnerable ecosystems.

This is just one of many cases that have been solved — or, in this case, **prevented** — by someone who cared enough to inform the appropriate government agency of criminal activity. The Department of Fish and Game encourages the public to report polluting and wildlife crimes by phoning the CalTIP (Californians Turn-In Poachers & Polluters) hotline at 1-888-DFG-CALTIP (334-2258). Callers may remain anonymous, if they wish, and may be eligible for a cash reward if their tip results in a conviction. Obviously, we're just as pleased to take these tips by e-mail. Thanks to the writer who informed us of illegal pollution by those operating the *M/V Cygnus*.

SONS exercise slated for California in 2004

By Ted Mar, OSPR Marine Safety Branch Chief

Is California prepared for a "Valdez"-type oil spill? We will have a very good idea of the answer to that question when California is subjected to a "Spill of National Significance" (SONS) exercise in the spring of 2004. To test the oil spill response preparedness of an area and the country to a large scale spill, the Coast Guard has been holding SONS exercises every few years. The first SONS was hosted by Philadelphia on the East Coast; the second SONS was at Valdez, Alaska; and the last SONS was in the Gulf Coast, hosted by New Orleans. Due to OSPR's reputation as an innovative response agency, California was selected by the Coast Guard as the site of the next SONS exercise.

A SONS exercise is designed to overtax the resources of the local area and cause the National Response Plan to be activated. The SONS 2004 exercise is being developed to affect a major portion of California and possibly Mexico. The oil spill contingency plans for the local areas; the State of California; Region IX (California, Arizona, Nevada, Hawaii, the Pacific Islands, and tribal nations of the Southwest); the National Response Plan, and the international Mexico-U.S. (MEXUSPAC) Response Plan will be tested by the SONS. The multi-day exercise will involve setting up command posts, moving and deploying equipment throughout California, and importing response resources from outside California.

The sponsors of the California Spill of National Significance Exercise 2004 are the U.S. Coast Guard, California Dept. of Fish and Game's Office of Spill Prevention and Response, and the American Petroleum Institute.

1992 Avila Tank Farm Spill and a decade of change

by Melissa Boggs, Staff Environmental Scientist and Dr. David Jessup, Senior Wildlife Veterinarian

Entrix photo

Overview of clean-up operations at August 1992 Unocal/Avila tank farm oil spill.

On August 3, 1992, a Union Oil Company of California (Unocal) pipeline ruptured near Avila Beach (half way between San Francisco and Los Angeles). As much as 25,000 gallons of San Joaquin Valley crude oil flowed along a ravine, down a cliff face, and into the ocean at "Boulder Cove" (the unofficial name of a small cove just north of Avila Beach). This was the first large incident for the then new Office of Oil Spill Prevention and Response (OSPR) since its 1991 inception. The oil spill affected intertidal and subtidal sediments, fish, birds and mammals in San Luis Obispo Bay. Tides, currents, winds and swells moved the oil to the south where it contaminated kelp beds and offshore rocks; and to the east and west where it hit rocky headlands and the shoreline of adjacent coves, damaging rocky intertidal and sandy beach habitats.

A commercial king salmon aquaculture program was impacted as Central Coast Salmon Enhancement, Inc. was rearing the fish in salt-water pens near the spill site. At least 77 oiled marine birds were captured and rehabilitated, including four California brown pelicans (a federally-listed endangered species). Three dead southern sea otters, (a listed threatened species) were also collected. Two more live sea otters were captured, stabilized, washed and released. Additional otters and birds were seen swimming through the oil spill cleanup area after the spill and were most likely affected, but were not captured.

At the time of the Avila Beach spill, OSPR Veterinary Services consisted of a single staff person — Dr. David Jessup. His base of operations was a truck, with no state sea otter care facilities to support his efforts. As a consequence, the oiled sea otters had to be transported to private clinics for stabilization and then to the Monterey Bay Aquarium for additional care. Controversy arose when Unocal voiced a preference for oiled sea otters to go to the small, local Morro Bay Aquarium that OSPR deemed unsuitable. It was not designated as an appropriate facility by the federal sea otter oil spill response plan. Since that time, OSPR has constructed its Marine Wildlife Veterinary Care and Research Center (MWVCRC) in Santa Cruz. In partnership with the UC Davis Wildlife Health Center, we have also created the Oiled Wildlife Care Network (OWCN). With the advent of the OWCN, significant progress has been made in the care of oiled wildlife.

The areas impacted by the spill support a number of recreational activities including general beach and pier use, sport fishing, pleasure boating, jet-skiing, ocean kayaking, wildlife viewing, cycling and hiking. Avila Beach is one of the most popular beaches in San Luis Obispo County.

Response and cleanup efforts took approximately one month and included offshore containment and recovery, cold water flooding of the intertidal zone in Boulder Cove, excavating the contaminated ravine on the

bluff above, and wildlife search, rescue and rehabilitation.

OSPR responders learned numerous lessons on our first big spill. Many of those issues have been resolved and, ten years later, some are still being worked on. We've come a long way and continually strive to improve.

In 1992 OSPR, the Coast Guard (USCG) and Unocal each had separate Command Posts. Based on that experience, we learned that working together, using the Unified Command System, in *one* Command Post is much more efficient.

Because the spill occurred in a fairly remote area, we utilized a small travel trailer loaned to us by a local Fish and Game Warden as the OSPR Command Post. OSPR now has a mobile Communications trailer that is being upgraded for use as a temporary Command Post in remote locations. Unfortunately, it is quite small — more appropriate for a single Incident Command System (ICS) section, such as Wildlife Operations or the Command Staff. Thus, a large trailer, the size of a mobile home, is still on the "wish list" of many responders.

The three rules of effective spill response are, "training, training, and more training" (e.g., in the Incident Command System, oil sampling, wildlife search and collection, etc.). Today, OSPR is developing a Strategic Plan that includes training as a primary component.

Disposal of oily waste was a major issue during this 1992 spill. We now have Memoranda of Understanding (MOU) with the State Department of Toxic Substances Control and the State Water Quality Control Board for disposal issues. The MOU with the State Water Resources Control Board provides that water which has been incidentally collected during skimming operations can be discharged back into the response area to make room in the skimmer holding tank for more actual oil.

Entrix photo

Clean-up crews working "Boulder Cove"

In 1992, wildlife operations (search-and-rescue and animal intake procedures) took days to organize. Today, OSPR has a well-established OWCN, with 25 participating organizations throughout the state. In addition, non-government organizations assist with the wildlife intake. There are now twelve primary response facilities, especially designed, equipped, and staffed for the rescue and rehabilitation of oiled wildlife. They're strategically located in coastal areas from Crescent City to San Diego, and in the Sacramento-San Joaquin River Delta. The OWCN has received world-wide recognition and has been the model for other states and countries.

To compensate for spill-related injuries to natural resources in the Avila Beach area, restoration activities are ongoing, ten years later. In November 1994, the State settled with Unocal pursuant to a State Settlement Agreement. The State Settlement Agreement was later amended to conform with the

CDFG-OSPR photo by Melissa Boggs

Crude oil flowed from the Unocal tank farm, down the cliff and into the Pacific Ocean, in 1992 Avila spill.

See Avila, page 20

Responders tend containment boom in Boulder Cove waters

Entrix photo

Avila, from page 19

Federal Consent Decree that was entered in May 1996. As a result, a court-appointed Natural Resource Trustee Council was formed, comprised of representatives from the OSPR and the U.S. Fish and Wildlife Service. The Trustee Council is responsible for developing and implementing a natural resource restoration plan with funds from the settlement.

The State Settlement and Consent Decree allocated $950,000 for restoration. Of that money, $425,000 will be used for riparian corridor revegetation, $250,000 for fish migration barrier removal, and $275,000 for estuarine habitat restoration. Compensation for injuries to sea otters was funded with $100,000 of the settlement funds. The Port San Luis Harbor District received $150,000 in settlement funds to implement projects that compensated for lost recreation due to the spill. The Harbor District used the money to purchase equipment to dredge the area around the boat launch, which improved boat access.

In addition, Unocal was required to implement a Terrestrial Revegetation Plan above "Boulder Cove." This on-site project was designed to stabilize soils and minimize siltation into the intertidal community below.

The Trustee Council determined on-site restoration in the intertidal zone and adjacent waters would be technically difficult to implement and/or terribly expensive, relative to expected benefits. So, the Trustee Council decided to implement off-site restoration projects in and along San Luis Obispo Creek (immediately west of Avila Beach) that would restore or benefit fisheries, birds, and intertidal organisms through overall improvements in the productivity of San Luis Obispo Creek and estuary. The Trustee Council published a draft Restoration Plan for public review in March 1997, and developed the final "Restoration Plan for the San Luis Obispo Creek Watershed" in June 1999. Injuries to sea otters were addressed in a separate "Sea Otter Restoration Plan."

Below: OSPR Wardens and other responders consult maps and charts when developing an oil spill Incident Action Plan.

CDFG-OSPR photo

1991 Mobil/Santa Clara River oil spill settled

by Kathy Verrue Slater, Staff Counsel and Dana Michaels, Information Officer


USFWS photo by George Adrejko

The California Department of Fish and Game OSPR, U.S. Department of Justice, U.S. Fish and Wildlife Service, and U.S. Environmental Protection Agency (EPA) have settled the Mobil/Santa Clara River oil spill.

ExxonMobil Oil Corporation will pay the United States and the State of California $4.7 million in compensation for the crude oil spill from a southern California pipeline operated by the former Mobil Oil Company.

The bulk of the $4.7 million will toward restoration of natural resources injured by the spill; the remainder will be paid as federal and state civil penalties and other damages.

The discharge occurred from a segment of the M-70 pipeline beneath the Valencia Golf Course in Valencia, Los Angeles County, on January 31, 1991. M-70 runs from Lebec (Kern County) to Torrance (Los Angeles County). The oil flowing from the ruptured pipeline fouled a 15-mile stretch of the Santa Clara River in both Los Angeles and Ventura Counties.

Although Mobil responded promptly to the spill, damages to flora and fauna in and along the river were unavoidable. This settlement resolves past violations by the former Mobil Oil Co., and will pay for habitat restoration and preservation projects in and along the Santa Clara River to compensate for the natural resources injured by the oil spill.

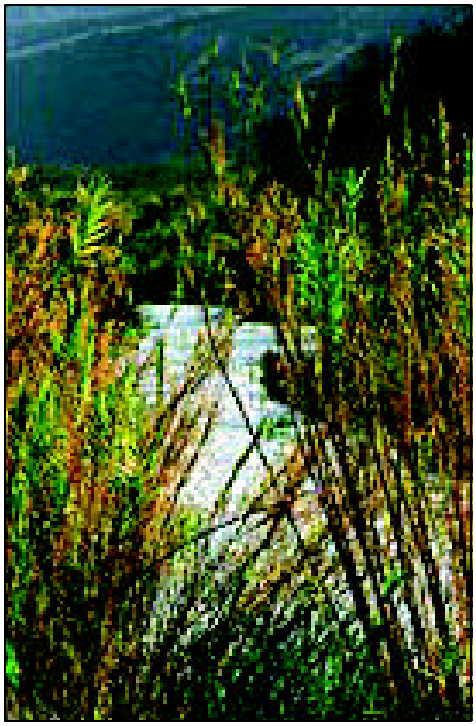
"The Department of Fish and Game is pleased that this case could finally be settled, and we can now commence restoration planning and implementation to benefit those species and habitats impacted by the oil spill," said OSPR Administrator Harlan Henderson. "The high rate of human population growth and urbanization in the area makes habitat restoration and preservation all the more pressing."

The Santa Clara River and surrounding habitat are home to a rich abundance of plant and animal life, including numerous endangered and threatened species, protected under federal and State laws. Restoring injured natural resources in this area is of great benefit to the local ecology and the public.

Listed species include the Unarmored Three-Spine Stickleback (a fish), Least Bell's Vireo (bird), Southwestern Willow Flycatcher (pictured at left), and California Red-legged Frog. The Southwestern Pond Turtle, a California Species of Special Concern, also suffered from the oil spill.

"[This] settlement provides needed funds that can be effectively used to offset the losses caused by the Santa Clara River spill," said Tom Sansonetti, Assistant Attorney General for the Justice Department's Environment and Natural Resources Division. "The settlement is also an example of what can be accomplished through a close federal-state working relationship, such as we have with the State of California."

The settlement was lodged Sept. 24, 2002, in the U.S. District Court in Los Angeles and is subject to a 30-day public comment period.


CDFG-OSPR photo

Riparian habitat on southern California's Santa Clara River

Xantus's murrelets recover on Anacapa Island

by Darrell Whitworth, Wildlife Biologist at Humboldt State University and Paul Kelly, OSPR Staff Environmental Scientist

Photo by Kevin White, Full Frame Productions

Aspen Helicopter crew performed the bait drop on Anacapa, using a hopper designed for precise distribution.

California's Channel Islands are home to many unique species of marine animals, but one of the most interesting is a species that few people ever get a chance to see, an inconspicuous black and white seabird called the Xantus's murrelet. Closely related to more familiar seabirds such as puffins and murres, Xantus's murrelets are among the rarest seabirds in the world, with a total of perhaps as few as 10,000-15,000 birds breeding on islands off the Southern California and Baja California coasts.

Xantus's murrelets are small and particularly vulnerable to predators naturally found on breeding islands, so they spend most of their time far out to sea, only returning to islands for a few months each year to breed. During the breeding season, murrelets go to great lengths to avoid predators, nesting in concealed sites (crevices, sea caves, or under bushes), visiting colonies at night, and even taking their downy chicks to sea just two days after hatching! However, murrelets find it difficult to avoid introduced predators such as rats or cats, which have completely eliminated murrelet colonies on some islands.

Introduced predators are one of the main threats to seabird colonies around the world. Once alien predators are established on an island they can be difficult to remove, but they *have* been successfully removed from some smaller islands. A predator eradication program began in November 2001 at East Anacapa Island, the smallest of the Channel Islands, where rats have seriously impacted the Xantus's murrelet colony.

The OSPR is the lead trustee agency (along with the U.S. Fish and Wildlife Service and the National Oceanic and Atmospheric Administration) in a project to monitor the status of Xantus's murrelets at Anacapa Island prior to and after rat eradication. The monitoring program is a multi-agency project led by Humboldt State University and Hamer Environmental in collaboration with the Channel Islands National Marine Sanctuary and California Institute of Environmental Studies and support from Channel Islands National Park and the U.S. Geological Survey.

The secretive nature of Xantus's murrelets made development of an effective monitoring program at Anacapa particularly challenging. Since murrelets are nocturnal at the colony, much of the work involved long nights counting murrelets observed on the water as researchers traveled around the island with spotlights in an inflatable Zodiac boat. (Surveys were conducted at 10:00 P.M., 1:00 A.M. and 4:00 A.M., each night.)

SOUTHERN CALIFORNIA TV ALERT!!

An outstanding half-hour program, "Restoring Balance: Removing the Black Rat from Anacapa Island" will air on KCET-TV 28, the Los Angeles PBS affiliate, on Monday, April 7, at 10:30 P.M. The show was produced by Full Frame Productions for the American Trader Natural Resource Trustee Council, which includes the DFG-OSPR.

Murrelet at-sea captures provided invigorating breaks to the often exhausting spotlight surveys. We used spotlights and dip-nets to locate and capture murrelets, which we banded, examined for breeding status and released. Not all of the murrelets we observed during surveys were breeding, but we believe many nested on the steep cliffs surrounding the island that were inaccessible to rats (and researchers!). In fact, an ornithological radar unit mounted on our research vessel detected many murrelets flying to and from these cliffs each night.

Daytime nest searches in the sea caves were always a challenge, following a full night of murrelet surveys and captures. Rough seas and strong surges in the inter-tidal zones made entering sea caves an adventure, and sometimes resulted in an unplanned swim or a painful tumble onto barnacle-covered rocks.

Photo by Kevin White

Xantus's murrelet on nest in well-hidden crevice

Our work has revealed that rats are a serious problem even in the sea caves, where only 18% and 36% of murrelet nests hatched the last two years, respectively. Rats are not only an egg predator but also pose a threat to adult murrelets, as evidenced by the rat-eaten carcass of a murrelet found in a sea cave in 2001.

Still, the large numbers of murrelets we observed during spotlight and radar surveys (more than 550 birds observed around the island during a single survey in 2002) indicated the potential for murrelets to recover to their former numbers at Anacapa. Nesting habitat similar to that at Santa Barbara Island, the largest murrelet colony in California, had been restricted to murrelets by the presence of rats on Anacapa. As murrelets re-colonize their former nesting habitats following a rat eradication project on the island, we expect an increase in murrelet numbers and breeding success. Our monitoring efforts are scheduled to continue over the next several years and we hope to will record the successful recovery of the Xantus's murrelet colony at Anacapa Island.

Photo byDarrel Whitworth

A non-native black rat gnaws at a decoy egg in a Xantus's murrelet nest on Anacapa.

EDITOR'S NOTE: On November 1, Middle and West Anacapa Islands were treated with rodenticide to eliminate non-native rats. Recent claims by an animal-rights group that the Anacapa deer mouse (a native mammal) endangered by the 2001 application of rodenticide on East Anacapa Island are unfounded. Over 175 of the mice were captured before the application, and released after the application. In addition, over 1,000 mice were translocated from Middle and West Anacapa to East Anacapa, where they have been breeding like, well... **mice!** Biologists monitoring the mice have determined that mouse numbers on East Island are now normal for this time of year. Happily, similar mouse population growth is expected on Middle and West Islands in 2003, now that the unnatural predator of the native mouse has been removed.

CDFG-OSPR photo by Paul Kelly

Darrell Whitworth calibrates telelmetry equipment that will help him track movements of Xantus's murrelets around Anacapa Island.

Inside OSPR

Arrivals

Dave Price, Environmental Scientist

Dave Price (pictured at right) joined OSPR's First Response Team in the Fairfield office, in 2001, replacing Jim Hardwick, who now works in OSPR's Base Realignment and Closure (BRAC) program. Dave came from CalEPA's Department of Toxic Substances Control, where he was both a hazmat responder and a project manager in site remediation. He worked in the Sacramento and Long Beach regional offices. Prior to that, Dave was an Environmental Manager for private industry in the Monterey Bay area. Dave enjoys sailing, fishing and making wine. He attended Michigan State and San Jose State Universities earning a B.S. in biology, majoring in fisheries and wildlife (marine biology).

Francis Mateo, Industrial Hygienist

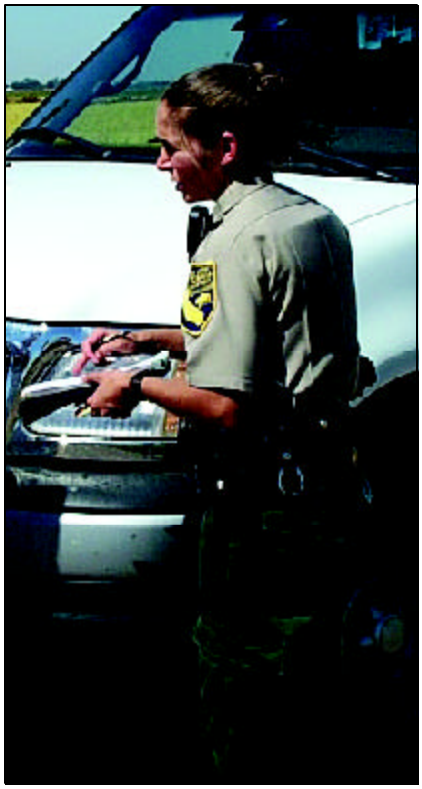
Francis Mateo (pictured at left) came to OSPR from the Dept. of Water Resources' Environmental Services Office.

Previously, he had been an Associate Industrial Hygienist for the Office of State Publishing and Cal-OSHA, and an Air Pollution Specialist for the Air Resources Board. He started his career as an instrument technician for the Governor's Office of Emergency Services (OES). There he calibrated radiological monitoring instruments and conducted monitoring kit exchange programs between state agencies and local emergency service offices. He later became the Emergency Services Coordinator for Hazardous Materials.

Francis will keep OSPR staff current in HAZWOPER and similar training, and serve as the Safety Officer during oil spill response. He has a Bachelor of Science degree in chemistry.

Savannah Morgan, Fish & Game Warden

Savannah Morgan (pictured below) began work at OSPR's Fairfield office in December, 2002, after graduating from the DFG Warden Academy and completing a three-month-long Field Training Program. Warden Morgan received the top Academic Honor Award at graduation, and also received recognition for her perfect attendance and field scenario scores.



She has a B.A. in biology, and has always wanted to work in the natural resources field. Before becoming a warden, Savannah worked as a Wildlife Biologist, conducting sensitive species surveys for private consulting firms. She surveyed a wide variety of species including northern goshawks, spotted owls, great gray owls, willow flycatchers, various carnivores, mountain yellow frogs,

red-legged frogs, blunt-nose leopard lizards, kangaroo rats, kit foxes, burrowing owls, and more. She also worked as an Environmental Compliance Monitor for private consulting companies and as a Scientific Aide for DFG.

OSPR's newest warden is an avid backpacker, and hopes someday to hike the Himalayas. She also enjoys 5-k and 10-k runs, and musical theater.

She has already moved to her new home in Idaho, where she works part-time as a job coach for special-education students at the local high school, and occasionally serves as a substitute teacher. Not bad for someone who started her own education in a one-room schoolhouse!

Departures

Lieutenant Helen Kevo

A Fish and Game Warden for 12 years — with OSPR since 1991 — Lt. Helen Kevo has retired with her husband, Bob, also a former DFG-OSPR Warden.

Before coming to OSPR, Helen was the pollution warden for the Los Angeles-Long Beach area. She worked the *Sammi Superstar* spill that forced the Port of Los Angeles to be closed in 1990.

With OSPR, she later served as Incident Investigator on the *M/V Kure* and *T/V Command* spills, and the *T/V Neptune Dorado* case; as Deputy Incident Commander on the *Cape Mohican*-San Francisco Drydock spill; and as Incident Commander on the 1997 Point Reyes Tarballs incident and the *Hollandic Confidence* near-disaster (a storm-crippled bulk carrier loaded with sulfur that nearly sank, off the Mendocino coast).

Helen was a major player in the Field Response Teams, helped develop the Wildlife Response Manual, served on the Health and Safety Committee, testified at a legislative hearing on abandoned watercraft issues, and taught Hazardous Materials Awareness at the Fish and Game Academy.

Captain Roger Richardson

Capt. Roger Richardson has left OSPR after 27 years of service to the Department of Fish and Game. During that time, he was involved in some of DFG's biggest and most successful law enforcement operations. He began his DFG career in 1970 as a seasonal aide in Humboldt County. By 1975, Roger was a Fish and Game Warden, working the San Joaquin Valley. There, he demonstrated such skill with guns, the Department made him a firearms instructor and inspector.

Roger became a Lieutenant in 1985, and served on the statewide bear committee, the DFG Field Training Officers committee, and was Vice President of the Tulare County Law Enforcement Managers Association. He was promoted to Patrol Captain in 1997, when he joined OSPR. Here, he supervised two warden patrol squads and the Department's Communications Center. He also served as OSPR's Acting Assistant Chief of Patrol for several months.

Roger rebuilds classic cars and you may see him showing his Little Deuce Coupe at classic car shows around the west.

Capt. Richardson with DFG's thanks for 25 years of service

See Departures, page 26

Departures, from page 25

Lieutenant Mark Caywood

Garden Grove/Winterburg Channel-Bolsa Chica, IMC/Trona, and other spills.

An expert SCUBA diver, Mark joined the DFG Dive Team in June 1977 and logged an average of thirty dives a year. In 25 years Mark made approximately 750 dives for the Department. For the past six years, Mark has served as a Dive Master for the team, an instructor, and been an active member of the Diving Safety Board.

Lt. Mark Caywood, a Vietnam Veteran, has retired after serving 27 years of service to the Department of Fish and Game. He joined the OSPR Southern Enforcement Squad in 1993**.** During his nine years at OSPR, he served as Incident Commander(IC) or Deputy IC on numerous southern California spills, including the McGrath, McDonald-Douglas, San Diego River, *M/T Neapolis,* His local knowledge of California's islands and his overwhelming expertise in and on the water have made him a true mentor to many of our divers.

Then, of course, there have always been the stories. The rhetorical question, "But what can I say?" will always be his legacy.

Staff in the Service

As in many organizations, some of OSPR's employees have been serving in the War on Terrorism since September 11, 2001. We'd like to recognize them here, and express our appreciation. They are valued members of the OSPR family, and we miss them when they're on active duty.

Sean Kelly

OSPR Oil Spill Prevention Specialist — Lieutenant, U.S. Coast Guard Reserve

Staff in the Service

Carl Moore
Interim OSPR Administrator

Carl spent over 33 years as a Reservist with the U.S. Coast Guard, reaching the rank of Rear Admiral. He was recalled twice in response to the events of 9/11 for a total of five months, serving in Norfolk, Virginia and Washington, D.C. (See "The Winds of Change" on page 13 for more on Carl Moore.)

Amber Scott

Student Assistant, OSPR Enforcement Branch —
Watercraft Operator (PFC), US Army

Jeremy Penney

OSPR Business Services Analyst —
Technical Sergeant, Air National Guard, US Air Force (not pictured)

Dennis Chastain

OSPR Oil Spill Prevention Specialist —
Chief Marine Science Technician, US Coast Guard Reserve

Bryan Gollhofer

OSPR Fish and Game Warden —
Boatswain's Mate 3rd Class, US Coast Guard Reserve

Bryan Gollhofer (left) and Dennis Chastain (right), of OSPR's Los Alamitos field office

Visit the OSPR Web-site at www.dfg.ca.gov/ospr — for more information on spills, wildlife, regulations, harbor safety committees, drills and exercises, and more!

Significant Spills Since OSPR's Inception

Date	Location	Source	Product	Estimated Barrels
11/24/01	Bolinas to Carmel	SS Jacob Luckenbach	bunker fuel	unknown
12/30/00	E. Walker River	tank truck accident	#6 fuel oil	86
2/28/00	Ventura County	tank truck accident	crude oil	143
9/6/99	Eureka	M/V Stuyvesant	bunker fuel	48
11/10/98	Port of Long Beach	M/T Neapolis	crude oil	150
9/26/98	Half Moon Bay	M/V Command	bunker fuel	72
2/14/98	Ventura	Texaco pipeline	crude oil	200
1/24/98	Bardsdale	Torch pipeline	crude oil	500
11/5/97	Eureka	M/V Kure	bunker fuel	108
3/1/97	Donner Summit	SFPP pipeline	gas, diesel, jet	unknown
2/26/97	Norden	UPRR transfer pipe	red diesel	405
10/28/96	San Francisco	Cape Mohican	bunker fuel	200
3/11/95	Arroyo Passejero	Chevron pipeline	crude oil	6,000
12/94	San Diego River	fuel transfer line	jet aviation fuel	1,000
10/94	Guadalupe Bch.	Unocal pipelines	diluent	120,000-476,000
1/27/94	Martinez	Shell pipeline	diesel fuel	1,200
1/94	Santa Clara River	ARCO pipeline	crude oil	4,607
12/25/93	McGrath Lake	Berry Petroleum pipeline	crude oil	2,000
4/93	Grapevine Creek	ARCO pipeline	crude oil	6,200
1992	Avila Beach	Unocal tank Farm	crude oil	2,100
3/91	El Segundo	Chevron pipeline	crude oil	238
1/31/01	Santa Clara River	Mobil pipeline	crude oil	1,000
1/8/91	Los Angeles Harbor	M/V Sammi Superstar	bunker fuel	308

Alternate communication format is available upon request. If reasonable accommodation is needed call Ms. Dana Michaels at 916-445-9338, or the California Relay (Telephone) Service for the deaf or hearing-impaired from TDD phones at 800-735-2929.

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